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ABSTRACT

Controversies continue regarding the effects of corporal punishment on children. Research has demonstrated an association between levels of corporal punishment and negative outcome behaviors such as aggression and other mental health problems. However, most of these studies have been cross-sectional and correlational in design, thereby precluding causal inferences. A more comprehensive understanding of the effects of corporal punishment requires taking into account the context of discipline and parent-child relationships, the influence of child and parent characteristics, as well as the cultural context in which corporal punishment takes place. This review of the literature addresses these issues as well as examining the current state of research, methodology, and issues of causality, and implications for parent education and future research. The review finds that the risk for negative and harmful consequences increases when corporal punishment is used in the context of a harsh, abusive, or dysfunctional parenting approach, and also when it continues to be the practice in older children and adults. Recent studies have begun to examine more closely the influence of culture on children's perceptions and interpretation of spanking and its subsequent effect on child behavior. Future research should examine the effects of physical punishment on a wide variety of other desirable and undesirable child outcomes. (Contains 48 references.) (Author/HTH)

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REVIEW OF THE LITERATURE REGARDING THE SHORT- AND LONG-TERM CONSEQUENCES OF CORPORAL PUNISHMENT ON CHILDREN

A Doctoral Research Paper

Presented to

the Faculty of the Rosemead School of Psychology

Biola University

In Partial Fulfillment

of the Requirements for the Degree

Doctor of Psychology

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by

Karen O. Cheng

May, 2000

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CORPORAL PUNISHMENT ON CHILDREN

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Controversies continue regarding the effects of corporal punishment on children. Research has demonstrated an association between levels of corporal punishment and negative outcome behaviors such as aggression and other mental health problems. However, most of these studies have been cross-sectional and correlational in design, thereby precluding causal inferences. A more comprehensive understanding of the effects of corporal punishment requires taking into account the context of discipline and parent-child relationships, the influence of child and parent characteristics, as well as the cultural context in which corporal punishment takes place. This paper will address these issues, as well as examine the current status of research, methodology and issues of causality, and implications for parent education and future research.

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REVIEW OF THE LITERATURE REGARDING THE SHORT- AND LONG-TERM CONSEQUENCES OF CORPORAL PUNISHMENT ON CHILDREN

Introduction

A national survey conducted in 1985 showed that over 90% of American parents use corporal punishment on toddlers or young children, and over 50% continue to use it during their children's early teen years (Graziano & Namaste, 1990; Straus, 1994). A 1995 Gallup Poll found that 74% of children younger than 5 years old were hit or slapped by their parents. In a survey of 679 college freshmen, approximately 93% reported being spanked as children; 57% reported that objects were used; and 91% reported that their parents were angry when the spankings occurred (Graziano & Namaste, 1990).

Corporal punishment is a common and prevalent disciplinary practice used by many Americans. However, controversies abound regarding the benefits or adverse effects of corporal punishment on children. Concerns have also been raised regarding risk for physical abuse, especially when anger escalates during physical punishment (Graziano & Namaste, 1990). Some studies have demonstrated the effectiveness of spanking in delaying or decreasing misbehavior in toddlers, whereas other studies have indicated its association with child aggression, antisocial behavior, depression, and other mental health problems in childhood through adulthood.

This paper gives an overview of important methodological issues related to the research on corporal punishment, followed by a presentation and discussion of findings from empirical studies to shed light on the effects of physical punishment in both the short- and long-term. This review will also examine important variables that interact with, and mitigate the effects of, corporal punishment. Finally, conclusions and implications for further research will be presented. It is hoped that information in this review will benefit and guide parents and professionals working with families in decisions and recommendations concerning discipline.

Methodological Considerations

The inconsistencies in research findings can be explained in part by the variability in the definition of corporal punishment, the age of children in the samples, and the methodology and statistical procedures. The definition of corporal punishment has not been clearly and consistently operationalized across studies. Specific aspects of corporal punishment such as intensity, chronicity, frequency, and combination with other disciplinary techniques, have mostly been overlooked by researchers. This oversight has impeded a clear understanding of corporal punishment. The age range of the samples recruited for the studies has varied from toddlers to latency age, adolescents, and adults, and has made comparisons between studies more difficult.

Many studies have indicated associations between spanking and behavior problems. The studies have been, for very good reasons, cross-sectional and correlational in design. Controlled experimentation is not feasible in the study of real parent-child

interactions. However, the correlational design also limits causal interpretation and deeper understanding of the complex developmental issues. A few recent studies have attempted to measure and control child baseline behavior (e.g., aggressive behavior at time 1), to minimize confounding of child outcome behavior (e.g., aggressive behavior at time 2), and to delineate more clearly the effects of corporal punishment. Studies have varied in the types of child and parent variables controlled for in statistical analyses, once again making it a challenge to compare results. A majority of the studies have included predominantly Caucasian samples, which poses problems in generalizing results to other racial and ethnic groups. Since culture plays a large role in child rearing practices, this is a substantial limitation. However, there have been some recent studies that incorporated minority groups to examine differences in the effects of corporal punishment cross-culturally.

Correlates of Corporal Punishment

It is useful to be aware of parent and child characteristics that correlate with corporal punishment, since it will be important to control these variables in analyses to ensure that the effects are accounted for by corporal punishment and not the other variables. Knowledge of parent and child variables that correlate with corporal punishment also help identify those more likely to use or receive corporal punishment, and help inform interventions for those at risk for excessive or inappropriate use of corporal punishment. Parent characteristics--which include the mother's age, parent's employment status, marital status, race, religion, socioeconomic status (SES) and educational level--are significant variables in predicting the use of physical punishment.

For example, parents with lower SES, Protestants, and those living in rural communities are associated with greater use of physical punishment (Giles-Sims, Straus, & Sugarman, 1995; Gunnoe & Mariner, 1997; Smith & Brooks-Gunn, 1997). Mothers who are younger or teen-age, unemployed, single parents, Black or African-American, and those who never graduated from high school are more likely to spank or hit their children (Giles-Sims et al., 1995; Gunnoe & Mariner, 1997; Smith & Brooks-Gunn, 1997).

Child characteristics, such as age, sex, and temperament, also predict the use of physical punishment. Corporal punishment is most prevalently used on toddlers and young children, and its use tapers off in adolescence. Boys are spanked more than girls; children who are more aggressive receive more physical punishment than less aggressive children; and 3-year-old girls who were rated as particularly difficult by their mothers at 12 months old are 2 to 3 times to be hit more likely than less difficult girls (Gunnoe & Mariner, 1997; Smith & Brooks-Gunn, 1997).

Non-Abusive Versus Abusive Physical Punishment

It is well documented in research that physical abuse causes a variety of emotional and behavior problems in children, such as child aggression, antisocial behavior, depression, and anxiety. Hence, it is important to distinguish between abusive and non-abusive physical punishment to delineate the true effects of non-abusive corporal punishment on children. Physical discipline and physical child abuse are part of a continuum of behaviors that need to be differentiated to shed light on the escalation in discipline interactions, and to inform intervention and prevention of abuse.

Whipple and Richey (1997) analyzed data from five studies of physical discipline and physical child abuse to distinguish frequencies of spanking between abusive and non-abusive families. These studies involved children ranging from age 1 to 15 years. Physically abusive parents and caretakers were identified in the studies based on agency records documenting chronic and injurious hitting, slapping, and kicking of children, reports of Child Protective Services (CPS) involvement, spanking by battered women who came from violent families, and parents who belonged to a parent education program. The non-abusive samples were mainly nonclinical participants and/or those that did not meet criteria for injurious physical punishment.

Data from the non-abusive families were used to develop a continuum that reflects a "normal" frequency range, without being specific about age of child. Cross-study comparisons were difficult given the wide variation in age of child, how physical punishment and abuse were measured, and the time frame within which physical punishment frequencies were reported.

The average amount of spanking by non-abusive parents is 2.5 times within a 24-hour time frame for all age groups combined. Spanking within 2 standard deviations of this mean (0 to 5.73) is considered to be within the normal range. Hence, according to this measure, families who spank 6 or more times per day may be more at risk of committing physical abuse. Clearly, the intensity and severity of spanking, the disciplinary context, age of child, and other parenting variables also need to be considered in determining the abusiveness of a spanking episode. This study served to identify merely one of the indicators of child physical abuse.

Trickett and Kuczynski (1986) studied 40 families to distinguish parenting practices between abusive and nonabusive families. Abusive families, which comprised half of the sample, were recruited from protective service agencies in a metropolitan area. These families had a history of reported incidents lasting several months or years. Half of the sample was a control group matched on the child's race, gender, and age, as well as family SES and single- or two-parent status.

The study found that abusive parents used punitive disciplinary practices such as isolation, verbal punishment, and physical punishment more frequently than did non-abusive parents, who used reasoning techniques and simple commands more frequently. Abusive parents also used punishment, such as isolation, verbal punishment, physical punishment and tangible punishment (e.g., withdrawal of privileges), as the predominant disciplinary method regardless of the type of child misbehavior. In addition, 40% of the abusive parents versus 0% of the control parents reported using severe forms of physical punishment, such as striking with an object, striking the face, or pulling the hair. Moreover, compared to control parents, abusive parents were twice as likely to feel angry or irritated after the discipline compared to control parents.

Despite attempts made to distinguish between abusive and non-abusive physical punishment, opponents of corporal punishment believe that physical punishment in itself is detrimental and a significant risk factor in the development of psychological problems (Greven, 1991; Straus, 1994; Straus & Kantor, 1994). Straus and Kantor (1994) argued that the "social and psychological dynamics underlying this association (physical punishment and psychological problems) are presumed to resemble those of other forms

of violent victimization in children and adults" (p. 544). Many child abuse specialists who witness the negative and lasting aftermath of child maltreatment understandably view all instances of parents hitting children as physical assault and a potential risk for child abuse. However, the social and cultural reality for many Americans is that physical punishment used in moderation and in the context of competent parenting is relatively common and permissible. In general, American society has perceived physical aggression and even violence as culturally acceptable expressions of strong emotions in various situations, including parental control. Use of physical punishment in discipline and exercising parental control also has philosophical and sometimes spiritual bases, which are deeply rooted in the parent's identity and are difficult to alter. From a pragmatic standpoint, establishing clear standards of comparison between what constitutes abusive and nonabusive physical punishment could help meet the needs of families functioning in the "gray area" and generate interventions to prevent parents from crossing the line into abuse.

Corporal Punishment for Toddlers and Young Children

This section examines the effectiveness of corporal punishment in reducing incidents of fighting and disobedience, and increasing compliance to parental instructions and time-out situations in toddlers and young children. The negative consequences of corporal punishment for children in this age group are also investigated, particularly in the area of cognitive functioning and aggressive behavior.

Effectiveness of Corporal Punishment

Larzelere, Schneider, Larson, and Pike (1996) found that corporal punishment combined with reasoning was effective in delaying recurrences in toddler fighting and disobedience. The sample consisted of 40 mothers of children ages 25 to 38 months (21 boys, 19 girls) who were predominantly Caucasian, middle-class, and from intact marriages. Using a structured discipline diary, mothers recorded over a 4-week period four possible disciplinary responses to occurrences of toddler disobedience and fighting, including the frequency of these responses and the time delay until the next recurrence of misbehavior. The mothers were fairly consistent and reliable in their recording across time (test-retest reliabilities between .52 to .82).

The four types of discipline responses were punishment (corporal or non-corporal), reasoning, reasoning-punishment combination, and other (without either punishment or reasoning). Corporal punishment included slapping the toddler's hand and spanking, while non-corporal punishment consisted of time out and withdrawal of privileges. Reasoning included a description of consequences, explanation, and information seeking. Any response under the Other corporal punishment category, which was considered the most abusive technique, was excluded from the study. Concerning the dependent variables, fighting referred to physical altercations with siblings or other children, and disobedience pertained to noncompliance with parents' verbal commands.

Results showed that the use of punishment combined with reasoning was significantly more effective in delaying fighting and disobedience than the use of reasoning or punishment alone. The punishment-reasoning combination was associated

with a mean delay of 20 hours before fighting recurrences, which is more than twice the average delay following either punishment or reasoning alone or other techniques (F [3, 763] = 7.00, $p < .001$). The punishment-reasoning combination was also associated with the longest mean delay for recurrence of disobedience (F [3, 2923] = 7.13, $p < .001$).

In differentiating the effects of corporal versus noncorporal punishment with or without reasoning, the authors found that the longest mean delay until fighting recurrence involved a combination of corporal punishment, noncorporal punishment, and reasoning (M = 27.10 hours). This indicates that the time between misbehavior recurrences was longer after a combined use of mild punishment and reasoning compared to use of either punishment or reasoning alone. Noncorporal punishment with reasoning was associated with the second longest mean delay (21.73 hours), (F [7, 759] = 3.53, $p < .001$). Corporal punishment with reasoning was slightly, but not significantly, less effective (15.58 hours) than non-corporal punishment with reasoning. In regard to toddler disobedience, the non-corporal punishment-reasoning combination and the corporal-non-corporal punishment-reasoning combination were found to be most effective in delaying recurrences of disobedience.

One of the primary strengths of the study involved the use of "contingency or recurrence delay" analyses instead of cross-sectional, correlational analyses. Contingency analyses are likely to produce stronger evidence for the causal effect of discipline responses on subsequent misbehavior recurrences. Cross-sectional correlational methods allow for the confounding of child misbehavior frequency with parental discipline responses. The possibility for this confounding influence was demonstrated in the

Larzelere et al. (1996) study when they found a positive correlation between frequency of punishment and frequency of misbehavior (r = .67), but an even higher correlation between frequency of non-punishment or reasoning and frequency of misbehavior (r = .92). It is possible (even likely) that the more the child misbehaves, the more frequent the disciplinary responses from the parents (corporal or non-corporal).

A weakness in the use of contingency analysis in the Larzelere et al. (1996) study was that the evidence for causality is reduced when between-subject differences, rather than within-subject differences, accounted for the delay in misbehavior recurrences. The average delay for misbehavior recurrences was shorter for mothers who reported a high frequency of misbehavior incidences than for mothers who reported a low frequency of toddler misbehavior. Larzelere (1996) concluded with the following:

> The mean differences in recurrence delays could have been due to mothers of frequent fighters being less likely to use the Punishment-Reasoning combination after a given fighting incident than were the mothers of infrequent fighters, which would reflect between-subject differences. Stronger causal evidence would be shown by within-subject differences, such that use of the punishment-reasoning combination led to significantly longer delays than were typical for that parent. (p. 45)

Therefore, in contingency analysis, the evidence for causality increases to the extent that results reflect within-subject, rather than between-subject differences. Despite this weakness, very few studies in this area have used as effective a procedure for disentangling the aggression-punishment-aggression cycle in parent-child interactions.

Spanking was found to be effective for oppositional children in increasing their compliance to parental instructions and reducing resistance or escape during time-out situations (Roberts & Powers, 1990). Clinic-referred, preschool children (N = 36; 27 boys, 9 girls) ages 2 to 6 years and their mothers participated in the study. The sample was composed of families from different SES and of unspecified race and ethnicity. Most mothers perceived their children as oppositional as measured by the Eyberg Child Behavior Inventory (Eyberg & Ross, 1978) and also reported other child conduct problems such as tantrums and aggression in the home setting.

A clinic analog study of four enforcement procedures for chair time-outs was performed, followed by a 4-Week assessment of time-out resistance and enforcement in the home setting. Children who displayed compliance ratios of 60% or less on the Compliance Test (Roberts & Powers, 1988) during the first clinic session were randomly assigned to one of four experimental conditions: Spank, Hold, Barrier, or Child Release. Depending on their experimental group, all mothers and children were trained and informed beforehand on their time-out noncompliance enforcement procedures and contingencies.

The Spanking condition involved spanking the child twice on the buttocks with an open hand and redirecting him or her to the time-out chair. The Hold condition required the mother to replace the child on the chair and hold the child in place from behind the chair for 10 seconds. The Barrier condition involved the mother placing the child in a small, empty, lighted room and obstructing the doorway with a 4-feet-high plywood sheet ("barrier"), while standing against to barrier and providing visual assurance of her

presence; after 60 seconds, the child was redirected to the time-out chair. Children in the Child Release group were told upon time-out that they could leave the chair when they wished to obey. Every enforcement incident was initiated by the mother's verbal reminder of the time-out enforcement contingency and ended by a verbal instruction to remain in the time-out chair.

The effects of these time-out enforcement procedures were compared on child compliance and time-out resistance behaviors. Results indicated that all procedures were effective for some children: Mean compliance ratios (collapsed across groups) significantly increased from baseline (M = 19.3%) to standard treatment (M = 64%) for all four treatment groups. A 4 X 2 ANOVA (Groups by assessment) yielded a significant Assessment effect (F [1, 32] = 60.68, $p < .001$) but no evidence of Group (F [3, 32] = 0.80) or Interaction effects (F [3, 32] = 1.26). From a nomethetic perspective, however, the Spank and Barrier methods appeared to be the treatments of choice. The Barrier procedure was associated with increased likelihood of criterion performance, relative to the Hold procedure ($p < .025$). In addition, fewer subjects with excessive time-outs were in the Barrier and Spank conditions than in the Child Release condition ($p < .015$). There were no significant differences between Spank and Barrier conditions.

An adjustment treatment phase was administered for any child who displayed excessive resistance to time out or excessive time-outs. The adjusted procedure for children in the Hold, Barrier, or Child Release conditions was the Spank technique, while the Barrier tactic served as the adjusted procedure for children in the Spank condition. Using tests of simple effects and subsequent Newman Keuls comparisons, the study

found that the subjects who required adjustments improved significantly from baseline to the first treatment phase (q [2, 68] = 3.02, $p < .05$) and from the first to the second treatment phase (q [2, 68] = 10.27, $p < .01$). Children who were resistant to spanking accepted the barrier procedure and vice versa.

Interestingly, the study found that children's prior knowledge of changed contingencies failed to be associated with criterion performance. "Stubborn young children seem to insist upon a behavioral experience. Modeling, verbal information, and verbal rehearsal seem insufficient" (Roberts & Powers, 1990, p. 268). The authors recommended that parents who had a history of abusing their children need to be taught and encouraged to use the barrier technique in place of spanking. The authors raised some interesting ethical issues related to the study, such as the need to obtain full, informed parental consent, careful parent training and continuous monitoring of time-out enforcement to reduce misuse and increase effectiveness (see p. 270 for a detailed explanation).

Negative Consequences of Corporal Punishment

Smith and Brooks-Gunn (1997) examined the effects of persistent harsh discipline on children's cognitive functioning at 36 months old. Data were obtained from a sample of 715 children who were part of a multisite, randomized clinical trial of low birth weight infants studied during their first 3 years of life. The sample consisted of 58% Black and 42% White children, approximately equal proportions of boys and girls, from urban and suburban areas. Families where the mother was head of the household made up 40%;

42% were from low SES families; and 66% had mothers who finished all or part of high school.

Harsh discipline was measured using the HOME Inventory which consisted of both maternal self-reports and direct observation of physical punishment when children were 12 and 36 months old. Occurrences of harsh discipline were measured based on the observers' report that the mother hit, slapped, scolded, or denigrated the child during the home visit. It was also measured by the mother's self-reported use of physical punishment more than once in the past week. The Stanford-Binet Intelligence Scale was used to measure the child's cognitive functioning at age 3. The effects of persistent harsh discipline on children's cognitive functioning were examined using the multivariate analysis of variance. Child and parent variables such as birth weight, sex, maternal educational level, and maternal age were controlled.

Results showed that harsh, persistent discipline was associated with lower cognitive functioning in girls at age 3 years. Girls who experienced high levels of discipline at 12 and 36 months of age ($n = 81$) had IQ scores approximately 8 points lower (almost half of a standard deviation) than the IQ scores of the girls ($n = 142$) who experienced low levels of discipline at 12 and 36 months ($p < .01$). No significant differences were found for boys.

Maternal warmth was examined as a possible mitigating factor for the effects of harsh discipline. Mother-child interaction at 36 months was measured using the warmth subscale of the HOME Inventory. During the home visit, the observer recorded the mother's responsiveness to the child's questions and requests, spontaneous praise for the

child, physical display of affection (e.g., kisses, cuddles) and encouragement. Girls who received high levels of discipline in the context of low maternal warmth (n = 57) had IQ scores that were on average 12 points lower (close to one standard deviation) than those of girls (n = 160) who experienced high warmth and low levels of discipline ($p < .05$). No significant differences were found for boys.

A strength in this study is the use of direct observation in combination with maternal self-reports in data gathering, although the prevalence rate of physical discipline found in observation reports was only 10% of what mothers actually reported in the survey (8% vs. 74%, respectively). This study shows evidence that girls who receive harsh physical punishment tend to have lower cognitive functioning than those who did not, and girls who experience harsh physical punishment with low maternal warmth tend to have lower IQs than girls whose mothers are warm and refrain from harsh corporal punishment.

It is still possible with the methodology used in this study that girls who had lower cognitive functioning received harsher punishment because they were lower functioning. They may also have had mothers who were lower functioning and therefore had less resource to deal appropriately with their low functioning children. This study did control for mothers' educational level to minimize this latter effect. It does not appear that corporal punishment in itself is associated with lower cognitive functioning, although more research is needed to confirm this.

Strassberg, Dodge, Pettit, and Bates (1994) observed that kindergarten children who were spanked exhibited over twice as much aggressive behavior toward peers than

did non-spanked children. The sample of 273 predominantly Caucasian children and their parents were recruited during kindergarten pre-registration. The children were equally distributed between boys and girls, and about half were from families of mid-SES. The parents were interviewed and asked to record their parenting behavior during the past 12 months using a modified version of the Conflict Tactics Scale (Straus, 1979, 1987). The Conflict Tactics Scale has been found to be a reliable measure of parental physical punishment practices. Based on their responses, the parents were classified as Nonuse (n of mothers = 16; n of fathers = 19), Spankers (n of mothers = 172; n of fathers =122) and Violent (n of mothers = 65; n of fathers = 14).

Spanking referred to the use of an open hand or object on the child's buttocks in a controlled manner; Violence involved the impulsive or spontaneous use of a fist or object to strike the child more strongly than one would while spanking. Frequencies of these behaviors within the last 12 months were measured. Approximately 6 months after the collection of parental punishment measures, direct observations were made of the children's aggressive behaviors toward peers on the playground and in the classroom. The study distinguished between types of aggression, namely, reactive, bullying, and instrumental aggression. Reactive aggression was defined as "an angry retaliatory reaction to an intentional or accidental act by a peer"; bullying was defined as "an unprovoked attack on a peer"; and instrumental aggression was defined as "aggression oriented toward obtaining or retaining a toy or another object" (Strassberg et al., 1994, p. 450). Each child was observed for twelve 5-minute periods on at least 6 different days

over several weeks to measure the frequency of different types of aggressive behavior. Blind, interobserver agreement was high at 96%.

Controlling for SES (marital status was not found to correlate with any child aggression scores), the researchers found that in general, Spanked children engaged in aggressive behavior twice as frequently (M = 4.62) as did Non-Spanked children (M = 2.24) (F [1, 250] = 3.96, $p < .05$). Spanked children were found to engage in more reactive aggression (average frequency not reported in the article) than did Non-spanked children (F [1, 250] = 4.24, $p < .04$). Children who were in the Violence group were found to aggress more frequently (M = 8.54) than Spanked children (F [1, 250] = 5.71, $p < .02$). They also engaged in reactive aggression (F [1, 250] = 4.84, $p < .03$) and bullying (F [1, 250] = 4.75, $p < .03$) more frequently than Spanked children. When average child total aggression scores were cross-tabulated by maternal and paternal punishment types, the least aggressive children were found to have parents who were both non-spankers. However, the sample size was very small (n = 5), and these may have been children of unusually mild temperament. Higher levels of subsequent child aggression were associated with either parents using spanking. The most aggressive children were found to come from homes where both parents utilize hitting or violence, though this group was also small (n = 7).

In this study, the presence of parental spanking and its intensity (violence) were found to significantly correlate with four types of child aggression. However, parental spanking frequency was not found to be significantly correlated with any of the four child aggression scores (r = -.01 - .08). Although spanking frequency was not shown to be

positively correlated with rates of child aggression in this study, other studies suggest that spanking frequency is related to child antisocial and aggressive behaviors (Straus & Mouradian, 1998; Straus, Sugarman, & Giles-Sims, 1997) and can be a marker of physical abuse (Whipple & Richey, 1997).

Strassberg et al. (1994) confirmed that violent physical punishment "presents an additional risk beyond spanking for the perpetration of person-directed aggression, angry retaliation, and unprovoked coercive domination of peers" (p. 457). The inclusion of a control (non-spanking) group was important to help distinguish differences between spanked and non-spanked children; however, the sample size of the control group in this study was quite small ($\underline{n}$ = 16 to 19 compared to $\underline{N}$ = 273) and diminished the confidence placed in interpreting group differences. Another limitation of this study is that it was unclear how spanking was done (e.g., intensity, use of reasoning, parental demeanor), and whether these variables, rather than spanking per se, might have accounted for the child aggression. Important child variables, such as baseline aggression and temperament, that might confound child outcome behaviors were also not controlled for in the study.

Brenner and Fox (1998) found that verbal punishment and corporal punishment were more highly predictive of behavior problems in young children than were such demographic variables as marital status, SES, parent's age and education, and the level of parental nurturing and expectations (developmental tasks that the parent believed the child should be capable of doing). Their sample included 1,056 mothers of children 1 to 5 years of age recruited from day-care centers who were representative of a large

Midwestern urban population. Middle- and upper-income families were somewhat overrepresented.

The mothers completed the Parent Behavior Checklist (Fox, 1992), which measures parents' developmental expectations, use of verbal and corporal punishment, and nurturing behaviors that promote a child's psychological growth. The rating scale has been found to show good internal consistency and test-retest reliability. The mothers used an adapted version of the Behavior Screening Questionnaire (Richman & Graham, 1971) to rate the children's behavior problems. The Behavior Screening Questionnaire measured on a 4-point scale the frequency of problem behaviors such as disobedience, aggression, tantrums, overactivity, clinging to adults; and sleeping, eating, and toileting problems.

A significant bivariate correlation was found between punishment (verbal and corporal) and problem behavior ratings ($r = .44$, $p < .01$). Parental nurturing was inversely correlated with child behavior problems ($r = -.13$, $p < .01$), although the magnitude of the correlation was very small. Sequential multiple regression that controlled key demographic variables (i.e., marital status, SES, parent's age, and education) indicated that parental discipline accounted for more than 13% of the unique variance and almost 20% of the total variance in predicting behavior problems in a very young, non-clinical child sample. No other single predictor accounted for more than 2% of the variance. However, it was unclear from the study what constituted verbal and corporal punishment and whether these had differential effects on child outcome behavior. Furthermore, it may not be verbal and corporal punishment per se that better

explain the variance in predicting behavior problems, but the severity and negative parental characteristics associated with the punishment, as well as child variables such as baseline aggression.

Corporal Punishment for Latency-Age Children/Preadolescents

This section examines corporal punishment for latency-age children and its relationship to antisocial behavior using cross-sectional and longitudinal data. Straus and Mouradian (1998) focused on an important dimension of corporal punishment--parental impulsiveness--and its association with antisocial behavior and impulsiveness in children. An attempt was made by Straus in another study (Straus et al., 1997) to establish a causal relationship between corporal punishment and antisocial behavior by controlling for baseline child antisocial behavior. Both studies will be discussed in this section.

Straus and Mouradian (1998) discovered a significant positive correlation between impulsive corporal punishment and child antisocial behavior, and between impulsive corporal punishment and child impulsiveness. The study included 933 mothers of children age 2-14 ($\underline{M}$ = 8.6 years) who were recruited by random digit dialing from prosperous agricultural regions in Minnesota. The majority of the children were Caucasians from two-parent families, and about equally divided between boys and girls. One-third of them had parents with college degrees.

Corporal punishment was defined as how often in the past six months the mothers spanked, slapped, or hit the target child for misbehavior or disobedience. Impulsive corporal punishment was conceptually defined as physical punishment that is "carried out

with little or no forethought and control" (p. 354). It was measured by asking the mothers how often they spanked and "lost it" because they were so angry. Child antisocial behavior referred to incidents of cruelty, hitting, lying, stealing, disobedience, rebelliousness, and destroying things, that were acted out towards family members, peers, and teachers in the last six months. Child impulsiveness was defined by how frequently in the last six months the child had temper tantrums, hot temper, and unpredictable, explosive, or impulsive actions. Analysis of variance was used to examine the relationship between the independent variables (i.e., frequency and impulsivity of corporal punishment, maternal nurturance, non-corporal punishment discipline, child's age and sex, and family SES) and dependent variables (antisocial behavior and child impulsiveness). The ANOVAs were computed using the regression approach option in SPSS, where the test of each independent variable controls for the other six independent variables.

Results indicated that the more corporal punishment the child experienced, the more antisocial and impulsive behavior the child manifested. Paired comparison tests showed significantly greater antisocial behavior scores ($p < .05$) and impulsiveness ($p < .0001$) among children of mothers in all corporal punishment frequency groups (i.e., not in the last six months to 6 or more times in the last six months) than among children of mothers who had never used corporal punishment. These relationships held even after controlling for family SES, child's sex and age, maternal nurturance, and the level of non-corporal interventions by the mother. Impulsive corporal punishment was significantly related and showed a virtually linear relationship to antisocial behavior

($p < .05$) and child impulsiveness for all corporal punishment frequency groups.

The relationship of corporal punishment to antisocial behavior and child impulsiveness was greatest and most consistent for children whose mothers were impulsive half or more of the times they used corporal punishment. However, even among mothers who reported only rare impulsive corporal punishment, the degree of their children's antisocial behavior and impulsiveness was significantly greater than the children who never experienced corporal punishment.

Results also indicated that the more corporal punishment a parent used, the greater the likelihood that it was done impulsively. The percentage of mothers who used corporal punishment impulsively increased dramatically from 36% of mothers who used corporal punishment only once in the last six months, to 49% who used corporal punishment twice, 55% who used corporal punishment three to five times, and 69% who used corporal punishment six or more times. The ANOVA also found a significant interaction of impulsive corporal punishment and maternal nurturance on child antisocial behavior. This indicates that impulsive corporal punishment was less predictive, albeit not inversely, of child antisocial behavior when mothers were more nurturing. Regardless of the mother's level of nurturance, the more impulsive corporal punishment she reported, the greater her child's antisocial behavior.

This study highlights an important dimension of corporal punishment--impulsiveness--that is more likely to occur in parents who spank in anger or frequently use corporal punishment. Parents who spank impulsively are more likely to have children who are more aggressive and impulsive, than parents who do not spank or spank non-

impulsively. The findings in the study were, of course, based on a cross-sectional design, which makes it difficult to make causal inferences. It can be hypothesized that children who are more aggressive and impulsive drive parents to spank more and "lose it."

The researchers attempted to control for the effect of prior (baseline) child misbehavior on later (outcome) child misbehavior, through the inclusion of a non-corporal punishment scale to serve as a proxy for the level of prior child misbehavior. The scale measured the frequency of non-corporal punishment interventions such as use of reasoning, time-out, or withdrawal of privileges. The use of this scale as a proxy for baseline child misbehavior is based on the assumption that parents would not engage in these disciplinary interventions if there was no perceived child misbehavior. Thus, the frequency of these non-corporal punishment interventions could reflect the extent of child misbehavior, and the non-corporal punishment scale could be used to control for child baseline misbehavior.

The study found that all frequency levels of non-corporal punishment intervention, corporal punishment, and especially impulsive corporal punishment, were associated with more child antisocial behavior and impulsiveness. This finding may be interpreted to show that regardless of the frequency of prior child misbehavior (non-corporal punishment interventions serving as proxy), use of corporal punishment and impulsive corporal punishment are still associated with child antisocial behavior and impulsiveness. An alternative interpretation to the same finding would be that the more the child engages in antisocial and impulsive behavior, the less likely parents use reasoning or time-out, and the more likely parents respond by using physical punishment

and losing their temper. This latter interpretation seems less likely, since the study found that the more non-corporal punishment discipline, the higher the child antisocial behavior as well, which finding adds some support to including the non-corporal punishment scale as a proxy to control for the level of prior child misbehavior. The positive association of corporal punishment and impulsive corporal punishment to child antisocial behavior and impulsiveness, regardless of the frequency of non-corporal punishment intervention, also suggests that when corporal punishment is used in addition to other disciplinary methods (non-corporal punishment), it predicts increased child misbehavior.

In a different study by Straus and his colleagues (1997), an attempt was made to establish a causal relationship between corporal punishment and antisocial behavior in children by measuring baseline antisocial behavior 2 years prior to measuring the effects of corporal punishment. They analyzed data from interviews with a national sample of 807 mothers who were part of a national survey in 1979. These women were reassessed in 1986-1988 (time 1) when their children were 6 to 9 years old, and again in 1988-1990 (time 2).

Corporal punishment was measured using one question in the Home Observation for Measurement of the Environment Scale (Caldwell & Bradley, 1984) that asked how many times mothers spanked their children in the past week. The authors defined spanking to refer to most forms of corporal punishment that were socially acceptable, such as hitting the child's buttocks or slapping the child's hand. Antisocial behavior was assessed using the Antisocial Behavior score of the Behavior Problems Index (Baker, Keck, Mott, & Quinlan, 1993), which incorporated items from well-established child

behavior scales, such as the Achenbach and Edelbrock (1983) scale and Peterson and Zill (1986) scale. Mothers reported the extent of their children's antisocial behaviors, including cheating or lying, bullying, lack of remorse, destroying things, and disobeying school authorities.

This study controlled a number of child and parent variables that may be related to antisocial behavior at time 2, including maternal cognitive stimulation and emotional warmth (i.e., verbal and physical affection), SES (income, occupational, and educational status), sex and ethnic group of the child, and antisocial behavior at time 1. Since antisocial or aggressive behavior tends to be a relatively stable trait, the most aggressive or antisocial children at time 1 would still be the most aggressive children at time 2. In order to elucidate the effects of corporal punishment on antisocial behavior at time 2, the study controlled for child baseline antisocial behavior to minimize its confounding effect on antisocial behavior at time 2. The study measured the child's antisocial behavior (e.g., bullying, lack of remorse, destroying things) at the start of the study when children were 6 to 9 years old (time 1). This variable, along with some important parent and child variables that might predict antisocial behavior, were controlled for when the relationship of corporal punishment on antisocial behavior were measured two years later (time 2).

Controlling for these variables, especially antisocial behavior at time 1, allowed for testing the hypothesis that the extent of corporal punishment at time 1 is related to antisocial behavior at time 2. The authors pointed out that since corporal punishment might have caused child antisocial behavior at time 1, their test of the effect of corporal punishment on time 2 child antisocial behavior was deemed conservative. Other aspects

of corporal punishment such as consistency, use of reasoning, parents' demeanor during spanking, and important child variables such as temperament and intelligence, need to be taken into account in future research due to their potential influence on the effect of corporal punishment.

Three statistical procedures were employed in sequence: zero-order correlations relating spanking with the antisocial behavior score, multiple regression, and ANOVA. It was hypothesized that with the level of antisocial behavior at time 1 controlled, the more corporal punishment shown at time 1, the more antisocial behavior would be shown at time 2.

Zero order correlations revealed that the more frequent the mother spanked her child in the week prior to the study, the higher the child's antisocial behavior scores that year and 2 years later. Test of ANOVA showed that spanking at time 1 was significantly related to antisocial behavior 2 years later, even after controlling for antisocial behavior during the year that spanking occurred (F [3, 996] = 4.4, $p < .01$). The strongest predictor of antisocial behavior at time 2 was antisocial behavior 2 years earlier (F [2, 996] = 86.1, $p < .002$). Two-way interaction analyses indicated that corporal punishment had significant interaction effects with child gender and ethnicity. The tendency for spanking to be related to an increase in antisocial behavior 2 years later is stronger and more linear for boys than for girls, and also for European American children than minority children. However, both girls and minorities experienced an increase in antisocial behavior in proportion to the amount of corporal punishment they received 2 years earlier. The study also found that the relationships between corporal punishment and antisocial behavior

were robust across age groups (3-5, 6-9, > 10 years) and years (1986-1988, 1988-1990), and across types of analysis (multiple regression and ANOVA).

In one of the few longitudinal studies available, corporal punishment was found not to be predictive of later-life violence (McCord & Ensminger, 1997). The sample consisted of 456 boys and 497 girls who were part of a sample initially studied when they were in first grade in 1966, and lived in an impoverished, ghetto area in the south part of Chicago. They were subsequently interviewed at age 32 to discover how six risk factors measured at age 6 (i.e., aggressiveness, intelligence, school attendance, spanking frequency, racial discrimination, and age at leaving home), predicted morbidity in criminal violence, depression, and alcoholism 26 years later. Although not specified in the article, it seemed that participants were predominantly, if not entirely, Black, since 80% of the men and 58% of the women reported exposure to discrimination due to being Black.

Chi square analyses showed that each of the risk factors measured in 1966 predicted violence or depression or alcoholism measured between 1992 to 1994. Frequent spanking, which referred to a child who received spanking a couple of times to almost every day of the week, was found to be related to alcoholism in men 26 years later ($\chi^2_{(1)} = 9.25$, $p < .04$). Alcoholics were identified through the Composite International Diagnostic Interview schedule, using the DSM-III- R criteria for life-time prevalence, and through the CAGE test, developed by Ewing and Rouse in 1970. The CAGE test was found to have few false positives in a previous validation study (Mayfield, Mcleod, & Hall, 1974). Spanking did not show a relationship to criminal violence or depression for

neither men nor women. The study, however, found significant comorbidity between alcoholism and violence. Among the 53 violent women identified in the study, 25% were also alcoholics; among the 187 violent men, 40% were also alcoholics. In the entire sample, 20% were identified as alcoholics (29% of the men and 12% of the women) according to at least one of the criteria.

The studies cited in the last two sections raise some issues and questions that need to be addressed in the examination of the effect of corporal punishment on child aggression. One important issue is that physical punishment explains only a portion of the variance in child aggression outcomes. Controversy remains as to how much of the variance is accounted for by corporal punishment and how much of the corporal punishment variance is accounted for by child aggressiveness. It is possible there are other variables correlating with child aggression which would better account for the effects that have been so far attributed to corporal punishment. As Larzelere (1986) put it, "Is the use of physical punishment the major antecedent of family violence or is it one of a set of symptoms of a parenting pattern that encourages family violence? Is there evidence that the effects of physical punishment depend upon other aspects of parenting?" (p. 29). Recent studies have sought to answer these questions, which will be examined later in this paper.

Another issue is that most studies examining the spanking-aggression relationship have focused primarily on one aspect of spanking, namely, its frequency. Other modes of spanking administration such as intensity, consistency, parent demeanor and attitude, types of misbehavior punished, and use of reasoning along with spanking, all need to be

addressed in research before a solid conclusion about the effectiveness of spanking could be made. It is possible that, appropriately used, spanking might be effective in reducing behavioral problems (Larzelere et al., 1996; Roberts & Powers, 1990).

Larzelere (1986) posed an interesting possibility that "spanking can be inappropriately used as a short-term solution to problems, but this does not necessarily mean that spanking is always detrimental when used moderately by parents who are competent in other aspects of parenting (e.g., nurturance, understanding, and praise)" (p. 29). Larzelere commented that, if spanking is used effectively and appropriately, there should be less need to use it subsequently. On the other hand, if spanking is used ineffectively, it may lead to an exacerbation of child misbehavior and cause parents to use it even more intensely or frequently. This latter pattern alone could account for the associations commonly found between spanking and child aggression in cross-sectional, correlational studies.

Corporal Punishment in Adolescence

Adolescents who experience corporal punishment may be at higher risk of depressive symptoms, suicidal ideation, and other mental health and social problems later in life, compared to adolescents who do not receive corporal punishment (Straus & Kantor, 1994; Turner & Finkelhor, 1996). Adolescents who are physically punished one or more times per month are found to be three times more likely to be depressed than those who were punished fewer times or those not physically punished at all. However, teens who have supportive parents tend to be at lower risk for depression than those who

do not have supportive parents (Turner & Finkelhor, 1996).

Straus and Kantor (1994) argued that though adult psychological problems may not be caused solely by corporal punishment in adolescence, corporal punishment needs to be considered as a significant risk factor. They studied 2,149 families who were part of a national survey for a family violence study. The husband or the wife, and one child under 18 randomly selected as the target child, were interviewed. The ages of the children were not specified in the study.

Each parent was asked to recall the frequency of corporal punishment they received in adolescence and to complete a questionnaire about their use of corporal punishment on the target child in the last year. The parents were also asked about the presence and level of their depression, suicidal ideation, wife assault, and alcohol use in the last 12 months. The Conflict Tactics Scales (Straus, 1979, 1990), an instrument with strong construct validity and moderate reliability and concurrent validity, was used to measure how conflicts were handled in the household. It was also used to assess child physical abuse and wife assault in the past year. Depressive symptoms were measured using four items on the Psychiatric Epidemiological Research Instrument (PERI) that assessed frequency of feelings of sadness, worthlessness, and hopelessness in the past year (alpha coefficient of reliability of .82). Suicidal ideation was assessed by a question regarding thoughts of taking one's life in the past year. The Drinking Index indicated the frequency and quantity of drinking in the past year and identified respondents who were binge drinkers.

Logistic regression was used to analyze data with the following variables controlled to minimize confounding with corporal punishment and the incidence of violence and mental health problems: family SES, gender, age, marital violence in the respondent's family of origin, wife assault, and drinking. Logistic regression or "logit" is a special form of multiple regression, which permits the use of dichotomous dependent variables (Aldrich & Nelson, 1984; Portney & Watkins, 1993). Some of the dependent variables in the study were dichotomous (e.g., whether there was a high or chronic drinking problem, or whether a child abuse incident occurred during the preceding 12 months). The equation that is derived is similar to a multiple regression equation with coefficients for each predictor variable. The t-test was used to determine the significance of each regression coefficient.

Results indicated that corporal punishment in adolescence was associated with a significantly increased probability of depressive symptoms ($t = 4.42$, $p < .001$, $N = 513$) and increased suicidal ideation ($t = 2.98$, $p < .002$, $N = 523$) in adulthood, as shown by significant t values. Adolescent corporal punishment was also associated with increased probability of alcohol abuse in adults ($t = 1.90$, $p < .028$, $N = 513$), particularly in men, as well as with increased probability of wife assault ($t = 6.14$, $p < .001$, $N = 529$). The presence of marital violence in the respondent's family of origin was highly associated with wife beating in adult life. Even when there was no marital violence, however, a history of corporal punishment still significantly predicted the husbands' assaultive behavior toward their wives.

Parents in the study who received more frequent corporal punishment in adolescence were found to more likely go beyond normative corporal punishment to physically abuse their own child, compared to parents who received less frequent corporal punishment. The frequency of corporal punishment during one's adolescence was the etiological variable most highly related to the probability of physically abusing one's own child, compared to other variables such as SES, age, gender or parents' marital violence ($t = 5.62$, $p < .001$, $N = 419$). The presence of family violence such as adolescent corporal punishment ($t = 5.62$, $p < .001$), parent's marital violence ($t = 2.48$, $p < .007$), or wife assault ($t = 5.37$, $p < .001$) was the most important etiological risk factor for child abuse.

The study showed that corporal punishment in adolescence places the child at risk for serious problems later in life. One of the strengths of the study was controlling for negative family characteristics such as marital violence, drinking, and wife assault, characteristics likely to be strongly associated with later-life aggressive behavior and other mental health problems. A limitation in this study is the retrospective nature of the data (recall data) which is prone to influences of memory.

Corporal Punishment across Generations

This section examines the process by which corporal punishment is transmitted from one generation to the next. This has important implications since parents who had experienced harsh, inappropriate, and ineffective corporal punishment might repeat the same experience with their children and pass on these negative practices.

Graziano and Namaste (1990) found that 93.2% of 679 college freshmen surveyed were spanked as children, and 82.7% of the entire sample were very accepting of the use of spanking and fully intended to use it with their future children. Those who were not spanked as children were significantly less accepting of the practice than those who were spanked. Muller, Hunter, and Stollack (1995) found greater evidence supporting the "social learning model" than the "temperament model" in the intergenerational transmission of corporal punishment in his sample of 1,563 parents of 983 college students. The college students included 295 men and 688 women from Michigan State University. The social learning model posits the following:

> An individual's tendency to manifest aggressive behavior across the lifespan is a consequence of the observational learning that takes place when receiving corporal punishment from the parents. Thus, for people who are currently parents, greater levels of corporal punishment given by their own parents influenced greater manifestation of their own aggressive behaviors. Similarly, children who received corporal punishment from their parents are more likely to manifest subsequent aggressive behaviors. (Muller et al., 1995, p. 1324)

The temperament model, on the other hand, asserts that "aggressive behavior is an individual difference characteristic that is based in temperament…[it] is a factor that leads to the response of corporal punishment on the part of one's parents" (p. 1324). This study examined the extent to which the two models demonstrated consistency with the data.

The sample in this study was predominantly Caucasian and close to half were Roman Catholics. The college students and their parents completed their own set of questionnaires, including the Conflict Tactics Scale, Aggressive Behavior Scale, and the Demographic Questionnaire. An adapted version of the Conflict Tactics Scales (Straus, 1989) was used to measure the respondent's childhood experience with physically punitive parenting. All participants (students and their parents) indicated their own parents' strategies for handling conflict over the course of their childhood. These tactics could range from use of calm discussion to use of a knife or gun. The Conflict Tactics Scales has a reliability coefficient of $\underline{r} = .77$ and adequate construct validity.

The Aggressive Behavior Scale was developed for the study to measure lifetime aggressive behavior or aggressive behavior before and after age 11. The scale measured the frequency of different aggressive behaviors, such as being arrested for non-traffic offenses, saying humiliating things to others, and destroying property. Aggressive behavior before age 11 was assessed by a subscale with most of the items derived from the Child Behavior Checklist (Achenbach & Edelbrock, 1983). Aggressive behavior after age 11 was measured by items mostly derived from the Antisocial Behavior Checklist (Zucker, Noll, & Fitzgerald, 1986). The Antisocial Behavior Checklist has a reliability coefficient of $\underline{r} = .80 - .85$ for undergraduate students. Confirmatory factor analyses were used prior to path analyses in order to remove measurement error prior to executing the path analysis. The correlations derived from these analyses were used to estimate the path coefficients using the procedure of ordinary least squares. The study attempted to assess

the extent to which the two models (temperament vs. social learning) demonstrated consistency with the data.

Results indicated that the temperament model was not consistent with the data for either fathers or mothers; the chi square goodness-of-fit indicated a significant difference between the model and the data, $\chi^2(2) = 14.39$, $p < .001$ (for fathers) and $\chi^2(2) = 9.53$, $p < .009$ (for mothers). In contrast, the social learning model was consistent with the data; there was no significant difference between the model and the data for fathers ($\chi^2[2] = 3.83$, $p < .147$) or mothers ($\chi^2[2] = .30$, $p < .860$). These results suggested that temperament did not adequately explain the process by which corporal punishment is passed on intergenerationally.

The temperament model presumed that the parent's lifetime aggressive behavior led to these parents receiving corporal punishment from their own parents. And it was also these parents' lifetime aggressive behavior that presumably led to their use of corporal punishment on their own children, and not because they had imitated their parents' use of corporal punishment. The social learning model assumed that parents received corporal punishment from their own parents, which contributed to their lifetime aggressive behavior, led to their use of corporal punishment on their own children, and in turn induced their children's lifetime aggressive behavior.

The social learning model was found to be more consistent with the data showing that when parents utilize physically punitive disciplinary techniques, their children were more likely to learn and utilize the same pattern of discipline with their own children.

The findings were somewhat stronger for mothers than for fathers, but both were in the same direction. The study does not disprove the temperament theory per se, since there have been studies showing significant temperamental differences in infants at birth. The study suggests that the social learning model could better explain the process by which corporal punishment is passed on intergenerationally.

Longitudinal data could allow for the examination of the dynamic interaction between temperament and parent's use of corporal punishment, such that aggressive child behavior at time 1 might predict parent's use of corporal punishment at time 2, which might predict aggressive child behavior at time 3. Longitudinal studies could also allow for a greater ability to make causal inferences from the data. The strengths of this study include the large sample size, use of multiple sources of data, use of path analysis for cross-generational data, and the inclusion of both fathers and mothers in the sample.

Simons, Whitbeck, Conger, and Wu Chyi-In (1991) found similar evidence for the intergenerational transmission of harsh parenting through direct modeling (r = .43 to .51). A sample of 451 White, two-parent families from the midwest that included a 7th grader and at least 1 other sibling within 4 years of the 7th grader participated in the study. Each of the four family members completed questionnaires on issues of parenting, psychological adjustment, self-concept, health, social support and economic status.

First-generation harsh parenting was measured by having the parents complete a four-item Harsh Discipline Scale adapted from the Conflict Tactics Scale (Straus, Gelles, & Steinmetz, 1980), based on their experience in 7th grade of the frequency of parental spanking, yelling, hitting with objects, and being told to leave the house. Coefficient

alphas between the parents' report of their own and their parents' parenting were above .70 for this scale. Second generation harsh parenting was measured by the parents' self-report of their parenting practices and the 7th graders' ratings of their parents' parenting, both using the same items in the Harsh Discipline Scale. Coefficient α's were .70 - .74. The 7th graders were asked an additional item rating the frequency of their parents' use of harsh physical discipline during the previous month.

Beliefs about physical discipline were assessed by a 3-item Commitment to Physical Discipline scale developed for the project, in which parents rated the degree to which they endorse the use of physical force (e.g., hitting, spanking) to control and correct their children. Coefficient α's were .60 - .63. The parents' hostile interpersonal style was measured using the Hostility subscale of the SCL-90-R (Derogatis, 1983), which assessed whether parents had experienced annoyance, temper outbursts, shouting or arguments with people, or the urge to harm or throw things at someone. This subscale was found in previous research to have adequate internal consistency and construct validity. The coefficient alphas for all the instruments used ranged from .54 to .78 in the study. Analyses were done using structural equation modeling procedures (LISREL VI) wherein paths not significant at the .05 level were deleted from the structural equations one at a time.

Results showed that mothers who practiced harsh parenting such as yelling, spanking, slapping, or hitting with an object, tended to have mothers who did the same. Path coefficients showed that grandmothers' harsh parenting strongly predicted harsh parenting by mothers (r = .43 to .51, $p < .05$). Mothers who believed in and endorsed

physical punishment (r = .58 - .61, p < .05) and those who had a hostile personality (r = .61 - .70, p < .05), also exercised harsh discipline toward their children. The chi-square and goodness-of-fit index (GIF) suggested that the models for mothers' harsh parenting fit the data well. Over half of the variance in mothers' harsh parenting (52% for daughter, 56% for sons) could be accounted for by the grandmothers' severe discipline, the mothers' own belief in physical discipline, and the mothers' hostile personality. These same variables were associated, although less strongly, to fathers' harsh parenting of their sons (r = .22 to .45, p < .05).

The path analyses showed that the grandparents' harsh parenting practices did not predict the mothers' belief and endorsement of physical discipline for their sons and daughters. The grandparents' harsh practices were also not predictive of the fathers' belief in physical discipline of sons. Only the grandfathers' harsh parenting predicted the fathers' belief in physical discipline of their daughters, with the relationship being quite minimal (r = .15, p < .05). There was more evidence for a direct modeling effect (r = .43 to .51) for the transmission of corporal punishment than an indirect transmission via the grandparents' influence on the parents' parenting beliefs (r = .15) or on the parents' hostile personality (r = .17 - .22). This finding suggests that while parents exposed to harsh discipline may develop parenting beliefs that favor severe physical discipline of their children, their experience may "result in the person [or parent] learning a set of aggressive disciplinary behaviors that are used in a reflexive, rather unthinking way" (Simons et al., 1991, p. 167).

In summary, results of the path analyses showed that harsh discipline by grandmothers is associated with mothers' harsh parenting of sons and daughters and with fathers' harsh parenting of sons. There was evidence that grandparents are more likely to transmit harsh parenting to the next generation directly through modeling, rather than indirectly influencing their children's parenting beliefs or personality. In the few cases where harsh discipline by grandparents was related to the personality or parenting beliefs of their adult children, the coefficients were small and the findings were inconsistent.

Mitigating Factors on the Effects of Corporal Punishment

In reference to a question posed by Larzelere (1986, p. 29) earlier in this paper, "Is there evidence that the effects of physical punishment depend upon other aspects of parenting?" the following section examines possible mitigating factors such as the disciplinary context, parent variables, child characteristics, and cultural issues. Many of the studies in this section cover a wide age range from toddlers to preadolescents and adolescents. Hence, this section is organized by topic rather than by age group.

Context of Disciplinary Practice

Larzelere (1986) examined the relationship between spanking frequency and children's physical aggression toward siblings and the parent, as well as the extent to which the frequency of parental discussion during conflict mitigates child aggression. The study used 1,139 parent interviews from a national data set that was originally collected for a study of family violence (Straus et al., 1980). The interviewed parents

were all from intact marriages and were equally divided between fathers and mothers. The parents had at least one child aged 3 through 17 in the home.

The Conflict Tactics Scale (Straus, 1979) was primarily used for the interview. Spanking referred to the frequency of physical punishment used by the interviewed parent on the target child during the previous year. This variable was categorized as minimal, moderate, or frequent spanking, however, the delineation of each category was unclear. Parental discussion referred to the frequency of calm discussion used by the parent to resolve a conflict with the child in the previous year. The two dependent variables were Aggression Toward Sibling and Aggression Toward Parent, which were measured by the sum of the child's reported physical violent tactics toward the siblings and parents. Violent acts ranged from throwing things and shoving, to beating or using a knife or gun aimed at the sibling or parent. Analyses were done separately for young children (aged 3 to 6), preadolescents (7 to 12), and teenagers (13 to 17), with each group divided according to spanking frequency levels.

The results indicated a straight positive linear relationship between spanking frequency and frequency of aggression for each age group. There was no evidence of a threshold of spanking frequency before it began to influence child aggression. Results also showed that regardless of the frequency of parental discussion during discipline, children who were spanked more frequently were also more aggressive. In younger children, this was the case for physical aggression toward both the siblings and the parent. For preadolescents and teenagers, however, the association of spanking with aggression toward parents depended upon how frequently parents used discussion to deal

with parent-child conflict (F [4, 229] = 3.01, $p < .05$ for preadolescents; F [4, 341] = 3.54, $p < .01$ for teenagers). For these two age groups, the combination of frequent spanking and minimal discussion was associated with frequent aggression toward the parent. The Mean Aggression Toward Parent score in this combination was approximately three times higher than all other combinations of spanking frequency and discussion frequency. In contrast, the association of spanking with aggression toward the parent was eliminated, albeit not inverted, for those parents who responded frequently to parent-child conflict with calm discussion. However, frequent parental discussion did not mitigate aggression of preadolescents and teens toward siblings (p's > .20).

This study demonstrates that to some extent the parenting context, specifically the frequency of calm discussion during parent-child conflict, reduces some negative effects of spanking on child behavior. A combination of corporal punishment, non-corporal punishment, and reasoning was also found to effectively reduce fighting and disobedience in toddlers (Larzelere et al., 1996). Other aspects of spanking and parenting (i.e., spanking intensity, nurturance, and clear limit-setting) would be important to examine for their potential mitigating effects on child aggression.

Parent Characteristics

A survey of 157 college students at a Midwestern university indicated that parents' attitude during spanking incidents affected the students' self-esteem and perceived fairness of parental discipline (Larzelere, Klein, Schumm, & Alibrando, 1989). Most of the students in the sample were women (86%), Caucasian (93%), sophomores (50%), and never married (91%). The ages ranged from 18 to 35 years. The independent

variables were spanking frequency, presence of positive parent communication and child-oriented versus parent-oriented attitudes and motivations during spanking. Students were asked how frequently they were spanked before age 13 and after 12 years of age. Positive communication referred to parents' use of praise, affection, reasoning, and absence of verbal put-downs. Child-oriented attitudes and motivations were assessed by asking respondents whether the spankings were perceived as oriented in love versus hostility, and motivated by release of parental frustration versus training in prosocial behaviors.

The dependent variables were self-esteem and perceived fairness of parental discipline. Self-esteem was measured using the Rosenberg Self-Esteem Scale (Rosenberg, 1965). The article did not indicate reliability and validity data for this scale, although another study reported a Cronbach's α of .89 in a sample of adolescents (Simons, Johnson, & Conger, 1994). Perceived fairness of parental discipline was measured by a 5-point scale interview question that asked how fairly the parents treated them during discipline. Pearson correlations were used to measure the association between the dependent and independent variables. Multiple regression was used to test for two-way interaction effects between spanking frequency and parenting characteristics.

Results showed that higher amounts of perceived fairness of parental discipline were associated with higher levels of positive parental communication ($r = .48$, $p < .001$), child-oriented attitude ($r = .35$, $p < .001$), and child-oriented motivation ($r = .27$, $p < .01$). Fairness was negatively correlated with frequency of spanking after 12 years of age ($r = -.23$, $p < .01$), with parent-oriented attitude ($r = -.41$, $p < .001$), and with parent-oriented motivation ($r = -.49$, $p < .001$). When the attitude variables were controlled, all

correlations between spanking frequency and the dependent variables were not significant. This implies that perceived fairness of parental spanking depends on children's perceptions of their parents' attitude and motivation during spanking. When spankings are perceived as oriented in love and motivated by prosocial training, they are more likely to be perceived as fair.

There were no significant interaction effects between spanking frequency and parenting characteristics in this study. It appears that how spanking was administered was more important that whether or how often. One of the limitations of this study is the use of retrospective self-reports about childhood discipline. Retrospective self-reports may be influenced by inaccurate perceptions and memory, and social desirability response sets. However, the results provide an interesting avenue for future research.

Simons et al. (1994) examined the extent to which corporal punishment versus quality of parental involvement better predicts adolescent aggressiveness, delinquent behavior, and psychological well being. The study involved 332 Midwestern families who were interviewed and observed when the target child was in 7th, 8th, and 9th grade. All of the families were Caucasian, lived on farms or in small towns, and had annual mean incomes around $30,000. The parents' mean education was 13.5 years. Corporal punishment was measured by a 4-item scale adapted from the Conflict Tactics Scale (Straus et al., 1980) that has good construct validity and reliability. Both parents and adolescents reported the frequency of parents' spanking, slapping, pushing, grabbing, and hitting them with objects. High scores on the corporal punishment measure meant that the parents persistently used physical forms of discipline with their adolescents over a 3-year

period. Coefficient alpha was above .70, and correlations between parent-adolescent reports were about .40.

The quality of parental involvement was assessed by parent and adolescent reports, as well as observer ratings of videotaped family interactions. Interobserver reliability were within acceptable levels, and the correlations between parent-child reports were above .80. The quality of parental involvement indicated the level of parental warmth/acceptance, monitoring, consistency of discipline, and use of inductive reasoning in discipline. High scores indicated continuous high quality parental involvement over a 3-year period.

The dependent variables of adolescent aggressiveness, delinquency, and psychological well being were collected after this 3-year period. Thus, measures of parental discipline and involvement during the first 3 years of the study were used to predict 4th year measures of adolescent behavior to achieve a somewhat more longitudinal approach.

Two self-report instruments, the Aggressive Orientation Scale and SCL-90-R (coefficient alphas of .85 and .87, respectively), measured adolescent aggressiveness, including physical and verbal aggression, and hostile feelings and behaviors. The SCL-90-R has established reliability and validity. Adolescent delinquency was measured by asking the teens to rate the frequency of 32 delinquent activities that apply to them, varying from minor to more serious offenses (e.g., drinking or skipping school, to stealing). The Rosenberg's Self-esteem Scale (Rosenberg, 1965), Pearlin's Mastery Scale (Pearlin, Lieberman, Menaghan, & Mullen, 1981), and the SCL-90-R/Depression

Subscale (Derogatis, 1983) were used to measure the adolescent's psychological well being: perception of self-worth, mastery, and depressed affect. Cronbach's alpha for these instruments was found to be in the high 70's to low 90's in this study. The unique effects of corporal punishment and quality of parental involvement on the three adolescent outcomes were examined using structural equation modeling (SEM).

After controlling for parents' education, results showed that the quality of parental involvement was consistently related to all adolescent outcomes. The better the quality of parental involvement, the lesser adolescent aggressiveness, hostility, and depressed affect; and the greater self-esteem and perceived mastery. Standardized structural coefficients indicated that mothers' quality of parental involvement is inversely related to adolescent aggressiveness (-.37 for boys and -.50 for girls) and delinquency (-.25 for boys, -.39 for girls), and positively related to adolescent psychological well being (.37 for boys, .50 for girls) all significant at the $p \leq .05$ level. The quality of fathers' involvement also showed a significant negative relationship with adolescent aggression for both boys (-.25) and girls (-.28), delinquency in boys (-.20), and a positive association with the psychological well being of both boys (.25) and girls (.28) ($p \leq .05$). Mothers' corporal punishment was significantly negatively associated with delinquency in adolescent girls (-.21, $p < .05$). This suggests a tendency for physical discipline to discourage delinquency in girls. Interestingly, corporal punishment by fathers and mothers had no significant effect on any of the other adolescent outcomes.

Corporal punishment and the quality of parental involvement were found to be significantly negatively correlated with each other (average of $r = -.29$, $p \leq .05$). Once the

effect of parental involvement was removed, corporal punishment was not significantly associated with the adolescent outcomes. This suggests that it is not corporal punishment per se, but the lack of parental involvement, consistency, and supervision often accompanying harsh corporal punishment that increases the child's risk for problem behaviors in adolescence. Similar findings associating inconsistent discipline and lack of parental involvement with conduct problems in adolescence were observed by Frick, Christian, and Wootton (1999).

Interaction effects of corporal punishment and parental involvement on adolescent outcomes were tested using regression analysis, but no significant effects were found. In contrast, Turner and Finkelhor (1996) found that parental support and involvement were less influential among adolescents experiencing high amounts of corporal punishment on levels of psychological distress. This suggests that even though corporal punishment per se may not predict adolescent maladjustment, the more extreme and abusive forms of physical discipline might show a negative effect on adolescent psychological well-being.

Child Characteristics, Perception, and Cultural Context

Frick et al. (1999) studied the possible variation in the association between parenting practices and conduct problems across various ages. The sample included 179 clinic-referred young children (aged 6-8, $\underline{n} = 87$), latency-aged children (aged 9-12, $\underline{n} = 60$), and adolescents (aged 13-17, $\underline{n} = 32$), who were predominantly male, Caucasian, and from lower SES backgrounds. Parenting practices were measured by the Alabama Parenting Questionnaire (Frick, 1991) to assess frequency of parental involvement, positive parenting, poor supervision, inconsistent discipline, and corporal punishment.

The specific definition of corporal punishment was not mentioned in the article. The Corporal Punishment scale (3 items) of the Alabama Parenting Questionnaire showed poor internal consistency. In general, the internal consistency of the Alabama Parenting Questionnaire scales were highest in the adolescent group (r = .43 to .95). Oppositional Defiant Disorder and Conduct Disorder were assessed through the DSM-III-R-based NIMH Diagnostic Interview Schedule for Children which combines parent, child, and teacher informants. Interrater correlations among the three informants were significant (r = .38 to .42). A series of multiple regression analyses was conducted separately for each parenting construct (i.e., involvement and corporal punishment) and conduct problem.

Results showed that corporal punishment was highly associated with conduct problems in the latency age group (R^2 = .44, $p < .01$), but not associated with conduct problems in the adolescent group (R^2 = .17, not significant) or conduct problems in young children (R^2 = .02). Interestingly, inconsistent discipline and lack of parental involvement were most strongly associated with conduct problems in adolescents (R^2 = .29 to .38). The analyses were repeated using a hierarchical regression procedure to determine the amount of variance each parenting construct contributed above the variance accounted for by the demographic variables. Results were almost identical to those from the multiple regression procedure.

The sample in the study was mostly boys living in rural to semi-rural areas, and future research needs to confirm the generalizability of findings in girls or children living in urban and suburban areas. Also, the adolescent sample had a large concentration of

participants in early adolescent years (ages 13-15), and findings may not generalize to older adolescents.

The findings in this study are consistent with those in the next study to be discussed that showed evidence for increased aggression with frequent spanking only for 8 to 11 year-old children (Gunnoe & Mariner, 1997). It is possible that when children reach age 8, changes occur in their perception of spanking and its appropriateness in accordance to their age and increasing autonomy in the home. Hence, parents may find it beneficial to find alternative disciplinary methods for children with conduct problems, especially as they reach age 7 or 8, and to increase or maintain discipline consistency and parental involvement.

Opponents of corporal punishment often cite the social learning model to argue that children who are spanked learn that physical aggression is an acceptable response to conflict, and subsequently increase their own aggressive behavior to control others. Gunnoe and Mariner (1997) challenged the unqualified application of a social learning model to the issue of spanking. Instead, they suggested a developmental-contextual model in which the effects of spanking depend on the meaning children give to spanking. They hypothesized that to the degree that children view spanking as a legitimate expression of parental authority within the context of cultural and age norms, versus as an act of interpersonal aggression, parental spanking will not lead to child aggression.

Gunnoe and Mariner (1997) studied 1,112 children, aged 4 to 11 years, in the National Survey of Families and Households, and collected data during two time periods in six years. The sample was representative of families in the United States, with some

overrepresentation by minorities and single-parent families to obtain sufficient numbers for this study. At time 1, frequency of spanking and 11 control variables were measured, including family structure (single or two-parent families), child's sex, age, and baseline aggression, parental race (Black or White), age, and parenting variables. Spanking frequency was measured by asking the interviewed parents how many times they spanked the target child in the past week. However, spanking was not specifically defined and might have been interpreted differently by participants. Child baseline aggression was measured by asking parents whether the child "bullies or is cruel or mean to others." Parenting variables were measured through a self-report questionnaire assessing the frequency of praise, yelling, and the use of rules.

The outcome variables were frequency of fights at school, measured by children's self-reports of fights within the last 12 months, and child antisocial behavior, assessed by parents' report on the antisocial subscale of the Behavior Problems Index. The Behavior Problem Index measured aggression, lying, disobedience, difficulty getting along with teachers, lack of remorse, and hanging out with troublemakers. The Cronbach α for this scale in the study was .68, comparable to the α obtained in the development of the scale. The study hypothesized that the meaning of spanking moderates child aggression, and that the meaning is a function of family hierarchy and cultural norms. The child's race, age, sex, and family structure served as proxies for determining family hierarchy and cultural norms.

Structural equation modeling yielded main effects of children's age and race ($p < .05$), such that spanking predicted fewer fights for children aged 4 to 7 years and for

children who are Black, and more fights for children aged 8 to 11 years and for children who are White. Regression analyses within subgroups yielded evidence of increased aggression for only one subgroup: 8- to 11-year-old White boys in single mother families ($p < .05$, F test). Spanking may be perceived as an act of aggression by the children in this subgroup. There was no evidence that spanking fostered aggression in children younger than 6 years. On the contrary, results suggested that spanking may deter subsequent fighting in children aged 4 to 7 years and in Black children. Path coefficients from spanking to child antisocial behavior did not differ significantly across groups.

Interpreting results based on a developmental-contextual model, children who reach age 7 may start to change their perception about authority and experience increasing autonomy and status in the family. Older children may not perceive their parents' continued use of spanking as fair or justified (Larzelere et al., 1989). Family status and children's perception of the meaning and appropriateness of spanking are also a function of the child's gender and race. In Black families, spanking may be associated with positive, caring parenting, and personal autonomy may be granted in later ages compared to White families. When children perceive parental spanking as non-normative within their culture, developmental stage, or family hierarchy, spanking can be perceived as an act of interpersonal aggression and is likely to lead to subsequent aggressive behavior in the children.

Deater-Deckard, Dodge, Bates, and Pettit (1996) also found evidence for cultural differences in the relationship between physical discipline and child aggression. The study followed and obtained data from 466 European American and 100 African

American children from kindergarten through 3rd grade (ages 5 to 8). Mothers' use of physical discipline was measured using an open-ended, semistructured interview, hypothetical vignettes, and a questionnaire adapted from the Conflict Tactics Scale—Aggression subscale. These instruments were found to have a high factor loading (.52 to .84) on the physical discipline construct. Interrater reliability was good (r = .80) between the standard interviewers and two research assistants who interviewed 56 randomly selected families from the sample. Physical discipline ranged from spanking, to hitting with or without the use of objects, to throwing objects at the child.

The dependent variable was children's externalizing behavior problems, measured using three sources of information (teacher, peers, and mother). The Externalizing Behavior Problems scale of the Achenbach Teacher Report Form (Achenbach, 1991), a highly reliable measure (1-week test-retest r = .90), was used to measure teacher ratings of child externalizing behavior 6 months after the in-home interview, and annually thereafter. Within the same time frame, classmates completed peer sociometric ratings to identify children who were most aggressive and who did not get along with the teacher. The mothers completed the parent version of the CBCL Externalizing Behavior Problems scale during the home visit and annually thereafter. These measures were found to have a very high factor loading on the externalizing behavior construct (.89 - .91).

A hierarchical linear regression was used to predict externalizing behavior problems, with SES and maternal marital status controlled. Bivariate Pearson correlations were used to investigate the two-way interactions of race and physical punishment on externalizing behavior. Higher levels of physical punishment were associated with higher

levels of child externalizing and aggression for European American children (r = .31, p < .001, n = 372) based on teacher and peer ratings. However, this correlation was negative and nonsignificant for African American children (r = -.07, n = 88) based on teacher and peer ratings. There was no relationship found between teacher and peer-rated externalizing problems and the harshness of parental discipline for African American children.

One explanation is that the meaning of physical discipline may be different for various ethnic groups, as shown in the previous study (Gunnoe & Mariner, 1997). Mothers' ratings of child externalizing behavior, however, showed no significant race by discipline interaction; there were no group differences in externalizing behavior problems between African-American and European American samples who experienced physical discipline based on the mothers' self-report data (African American r = .24, p < .05, n = 83; European American r = .40, p < .001, n = 392).

More research is needed to validate these findings. Other cultural groups (e.g., Hispanic, Asian) also need to be included to further investigate the effects of cultural context for parental discipline. Other parenting factors (e.g., warmth and negativity) that could significantly influence child behavior outcome also need to be included in future research. The increasing sophistication of analyses (e.g., measuring recurrence delay, use of longitudinal designs, inclusion of path analysis) has begun to provide a more accurate view of the complexity of parent-child interaction. Further use of such methods is needed to clarify understanding of the effect of corporal punishment in particular families for particular children of particular ages.

Conclusion

Though associations between corporal punishment and negative outcome behaviors such as aggression and antisocial behavior have been demonstrated in many studies, recent research has shown that these associations are dependent on the parent-child context in which discipline occurs. As Baumrind (1973) stated, the evidence "does not indicate that negative reinforcement or corporal punishment per se were harmful or ineffective procedures, but rather that the total pattern of parental control determined the effects on the child of these procedures" (p. 36).

The risk for negative and harmful consequences increases when corporal punishment is used in the context of a harsh, abusive, or dysfunctional parenting approach, and also when it continues to be the practice in older children and adolescents. Corporal punishment can foster or exacerbate negative behavior in children in several circumstances: when administered impulsively, when used as the predominant disciplinary technique, and when the parent-child relationship is characterized by a lack of parental warmth, involvement, and positive communication. In these situations, children are more likely to interpret spanking as an act of interpersonal aggression, or as motivated by hostile or unfair parental attitudes.

Recent studies have begun to examine more closely the influence of culture on children's perception and interpretation of spanking and its subsequent effect on child behavior. Research on corporal punishment has paid relatively little attention to the effects of physical punishment on the wide variety of other desirable and undesirable child outcomes. It will be interesting in future research to examine the influence of

corporal punishment on such outcomes as children's prosocial behavior, academic achievement, internalizing behavior, and many others. This will contribute to an even more comprehensive understanding of corporal punishment and its effects.

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